

The Setting

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making salt were described to me, the housewife depends mainly on trade salt. Meals never consist of more than one course. Plates, forks and spoons are owned by all households but people do not always use them. While boiling is the most common way of preparing food, bananas, yams and breadfruit are usually roasted. Meat is often preserved by daily smoking, sometimes for long periods. There is a rule against eating meat 'in lent' and this is kept very strictly, but probably for traditional religious reasons to be discussed later. The main drink with meals is a soup consisting of the water in which the vegetables and herbs were cooked.

Foraging. A good deal of plant and animal food is obtained from foraging, especially in the tropical rain forest which covers most of the Northern District. Among foraged animal foods I would mention especially grubs, frogs, snails, rats, bush eggs and lice. Foraged plant foods are especially valued during the dry season when roots, leaves and fern fronds may make up part of a meal. Savoury herbs and leaves, however, are collected at all times of the year. Some food plants, though growing in the forest, are owned by individuals so that the gathering of these plants may be better described as harvesting than collecting. The most important are the *tauga* and *puga* nut, sago, breadfruit, wild fig, and fruiting pandanus.⁴

Hunting. According to Waddell and Krinks, about two man-hours weekly are spent on hunting (3.7 hours by men and 0.3 hours by women). Hunting patterns on the Mount Lamington foothills differ widely from those on the alluvial plains where kunai grass is widespread. On the foothills, there is hunting in reverted gardens and in very limited areas of virgin bush. The usual quarry consists of small marsupials and birds. If a pig is encountered, it is invariably a village pig whose owner has a claim to the carcass. The game population was virtually exterminated after the introduction of guns in the 1950s. In the kunai country, on the other hand, hunting land is abundant. The technique is by firing the kunai so that the animals can be shot when they escape. Such a hunt requires a large number of men who ring the burnt-over area. Not only marsupials but also pigs are killed, either by gunfire or by being roasted alive in the kunai grass. By no means all animals killed in the fire are retrieved. Fires tend to get out of hand and to spread over surrounding bush land which then is often covered with kunai grass and so is useless for purposes of cultivation.

Fishing. The supply of fish has suffered greatly with the introduction of snorkels after the Second World War, as this equipment enabled the Orokaiva to fish out their rivers almost completely in a very short time. Fish is still an important resource, however, in the lower reaches of the huge rivers which run through the Northern District: Kumusi, Ambogo, Girua, Sambogo, etc. In Inonda, the village studied by Crocombe and Hogbin (1963) and Waddell and Krinks (1968), 3.8 man hours per week are spent on fishing, mostly with spears, and the product is used not only for consumption but also for trade. (Inonda people also trade meat and bush eggs.) Many of the villages near the mountain, such as Sivepe, have very little fish. Apart from a few eels and crabs, the rivers contained a small supply of two-inch-long fishes caught in April with a small hand-net used as a scoop. (See Williams 1930:53 for description.)

Animal Husbandry. There are three kinds of domestic livestock: pigs, dogs and fowls. Every man still has one or more small dog which he uses for hunting

Pigs

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pig-lending becomes a simulation, on a minor scale, of the customs of marriage exchange, where a reciprocating pair of groups send back and forth a female marriage partner at intervals of one generation. 437
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This assimilation of domesticated pigs to human members of exchanging social groups is emphasised by much customary behaviour towards these pigs. 231
This behaviour goes beyond co-residence in the same house and the use of kinship terms of reference, but extends to strict taboos of wide range prohibiting the eating of domestic pigs by their rearers. 825
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4. Wild Pigs as Victims

Williams (1930) describes in detail the techniques that are, or were, used for the hunting of pigs: the use of spears, pig-traps, and the collective burning of *kunat* grass to drive pigs towards their pursuers. I myself witnessed such a burn, in which three villages participated as owners of the burnt-over land (Inonda, Urio, Musou) as well as some hunters from Ajoro. The myths explaining the origin of the various techniques of hunting and of cooking the meat do not enlighten us greatly in the study of exchange, except to confirm a point already made in a previous chapter: the *dema* figure who is remembered as having 'given' a certain technique to mankind, is invariably described in the myth as the first victim of that technique. The ritual of killing is a very simple one: it consists in calling out one's clan name before striking the fatal blow. This is supposed to give the hunter the strength (*ivo*) he needs in order to kill. Both killer and victim are thus symbolically identified with a primal ancestor. 224
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The killer of a wild pig is not bound by the same ritual restrictions as the killer of either a man or a domestic pig. Williams states that he found no rule prohibiting a man from eating his personal quarry. Nonetheless, I found that in practice the meat of the wild pig virtually always serves some purpose of exchange-sale, barter or the mediating of social relations. The two wild pigs killed by Inonda men during the hunt to which I have already referred will serve as an example. [262]

Killer A presented his pig to his mother's brother who lives in Ajoro. Killer B presented his quarry to killer A, who is B's brother's wife's brother. A distributed most of the joints to men and women from Inonda (including B), and to two Ajoro men who had returned from the hunt empty-handed, but kept one joint. A's mother's brother kept part of the animal he had been given but distributed the rest of it to his Inonda relatives, including A., as well as several affines. In the end everyone in Inonda had received some meat, but sometimes this meat had gone through several hands. For instance, A's sister did not receive meat from the animal her brother had killed, but from the animal her brother received as a present. Her brother gave several joints to B and it was from one of these joints A's sister was able to eat, because B gave it to his own brother who was A's sister's husband. 224
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After this set of circuitous transactions the fires were lit. I noticed that only some of the meat was boiled but that most of it was smoked for later use. In fact only a fraction of the two slaughtered pigs was eaten that night. The smoked meat was kept for a variety of transactions. In line with the modern trend, these included sale at the market, but there were also traditional prestations, e.g. a gift 252
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824 partners, while objects of mediation are not imaginary and magical, but have a real
772 existence. I shall deal with these two aspects in turn.

3. Coconut as an Object of Mediation

824 Coconut has several culinary uses: it is eaten raw; soup is made of the flesh; the
[252] squeezed flesh produces coconut cream in which taro and delicacies such as river
[262] crabs may be cooked. Young coconuts are cut open at the top and used for a
[272] refreshing drink. Coconut is reserved for two kinds of everyday food gift:
[431] cooked dishes offered to guests and young coconut offered to visitors on arrival.
Waddell's figures for coconut transactions are surprisingly low (less than 1 lb. per
week disposed of in an average household). In Inonda, where the climate favours
the coconut, there has been sporadic commercial exploitation of the nut.

[574] Coconuts are also a feasting food. At ordinary harvest feasts and bridewealth
payments they are seen on display platforms along with taro and other
[262] vegetables. Williams (1930: 44) reports that they used to be placed under a
taboo when a large feast was pending. I have already mentioned that at mortuary
[764] feasts they are the principal object of mediation between the plant emblem
group of the deceased and the village which has provided services to the deceased
at the time of death (See Williams 1930: 223-6). I saw a variant of this
ceremony at Hohorita in 1967. The plant emblem groups of the deceased couple
provided massive gifts displayed on a platform: feast taro, tins of fish, cartons of
flour, corned beef in tins, sugar-cane, pots of cooked vegetable food, small bags
of salt, smoked meat, a dead pig suspended from a stick, rice, bread, an
abundance of betelnut and carved taro suspended from horizontal poles placed
above the platform, while at least 1000 lbs. of coconuts, strung to poles
supporting each other diagonally, were seen everywhere among the other gifts.

[262] Coconut is correctly believed to be a valuable adjunct to children's diet, as it
[146] provides first-class protein. The belief is explained by Orokaiva in a myth quoted
by Williams (1928: 122) according to which the first child ever to eat a coconut
grew miraculously overnight. Children do eat a good deal of it and it is also fed
[231] regularly to dogs and chickens. Orokaiva also regard the effects of coconuts on
[235] dogs as miraculous. As neither dogs nor children have any other substantial
supply of first-class protein, the coconut relieves a very real diet deficiency.
Whatever religious significance is given to the coconut is related to this.

824 Coconut oil is used as a cosmetic for hair and body, not only to enhance
778 beauty but also for its magical efficacy. In a ritual performed over a man-slayer,
[302] a coconut was broken over his head as a purificatory and 'defensive' device in
the sense that the fluid would drive away dangerous spirits (1930: 175). With
[789] the same end in view, the bodies of female initiands and certain ornaments worn
at dances are rubbed with coconut oil (1930: 207). It would appear, in view of
[881] this evidence, that the coconut is in general identified with *ivo* communicated by
the dead to the living. The coconuts of a dead leader are thought to contain his
ivo in a form which is communicable, not to his kinsmen to whom these
[761] coconuts are taboo, but particularly to his affines. The quoted ritual uses of the
coconut are all associated with some contact with the world of death, i.e. critical
[764] situations in which the living have been in contact with death and need the help
of the dead to obtain *ivo*. While this *ivo* is communicated, through the mediation

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Breadfruit trees grow around the village and in garden areas, some being planted and others self-sown but preserved when garden sites are cleared. All are individually owned. Harvesting is relatively easy, the fruit being removed from the tree with the aid of a knife attached to a long stick. Sago apart, the breadfruit comprises a major element of diet during the dry months.

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While the inland Orokaiva are essentially food-gardeners - a fact dictated largely by the density of occupation where intensive utilisation of the forest has greatly reduced its plant and animal resources - both hunting and sago-making are of limited importance and occupy 1.8 and 0.4 hours per man-week respectively.

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Traditionally the Sivepe people claim to have hunted feral pig high on the slopes of Mt Lamington but this has ceased now they 'have too much to do'. No such pigs are found in the bush adjacent to the village but bandicoot, wallaby, cus-cus, flying fox, and a variety of birds are not uncommon. Periodically domestic pigs enter gardens whereupon they are usually hunted out and killed, either by the irate gardener or the owner of the animal. While a spear may be used in the latter case, shotguns are now often used or special hunting parties organised where a net is employed. Use of the two shotguns held in the village is usually confined to the owner and others who contributed to its purchase. Such hunting, with the aid of a torch, is normally done on moonlit nights and is most common in the dry season when flying fox are attracted to the ripe breadfruit.

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During the survey, however, most hunting was done during period III when 4.8 hours per man-week were recorded, the avowed object being to 'stockpile' smoked meat for the annual Christmas feast held on Sasembata mission station. Large intra- and inter-village group drives were organised daily for two weeks, the activities being initiated by the priest blessing the dogs. Wallabies were the principal animals caught. During both weeks time spent hunting exceeded 11 hours per man-week, or more than that devoted to taro gardening. These drives were facilitated by a spell of unusually dry weather.

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Sago-making is a highly seasonal activity. In Sivepe, production is confined primarily to the dry season when 1.5 hours per man-week were spent on it, rising to 6.4 hours in week 16 when only taro gardening, among subsistence activities, was of greater importance. The work is arduous and is only undertaken with reluctance as the flour must be produced as quickly as possible following the felling of the tree. It is one of the few activities not interrupted by heavy rain.

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Because of the very high labour requirements, sago-making is essentially a group enterprise and, not being popular, is only commenced when a number of families have little producing food in their

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Plate 3. Sago-making - possibly the most arduous of subsistence tasks and invariably a group enterprise.

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Plate 4. Sivepe - women are responsible for keeping the central area free from weeds and refuse, as part of 'Council work'.

252 gardens. If absolutely necessary it will be made without outside
 (461) assistance, such being the case with one household with inadequate food supplies in its gardens in period III because the head had been absent for several weeks earlier in the year.

241 (ii) Seasonality and the pattern of subsistence food production.
 (262) While no significant 'dry season' occurred during 1964, the data gathered suggest that the cycle of agricultural activities is partly designed to allow for a dry spell at mid-year. During period II little taro or yam were producing and breadfruit and sago replaced these as the major contributors of carbohydrate to the diet. Yet an agricultural system which is characterised by a period of food scarcity was disrupted by unseasonably wet weather. Heavy rains deterred people from carrying out routine garden tasks, including food gathering, and probably accounted for the postponement of sago-making. On a number of nights during this period evening meals were not prepared because of rain and individual families went to bed hungry.

433 (iii) Marketing of subsistence produce. This is only a minor
 512 activity amounting to 0.3 hours per man-week. Food crops may be sold either at the weekly market at Saiho hospital or exchanged for trade goods at Sasembata mission station, but their rates are so low that there is no systematic production of food crops for sale to these bodies.¹ Although more favourable prices probably obtain at Popondetta market, distance and lack of transport preclude the Sivepe people from selling there.

(432) (iv) Other subsistence activities. Other subsistence activities comprise the preparation of tools and equipment and house construction. Handicraft work only accounts for 0.3 hours per man-week and primarily involves the preparation of axe handles, spears, traps and nets for hunting, troughs for fermenting coffee, a variety of mats and bags made from woven palm leaves, and various decorative items of a ceremonial nature.²

While mats and bags are made throughout the year, the other tasks are largely related to seasonal and specialised needs, the peak (0.5 hours per man-week) occurring in period III with the preparation of hunting equipment and ceremonial dress for the Christmas festivities.

Forty per cent of the time spent in the preparation of tools and equipment is taken up by ceremonial goods, 25 per cent by woven baskets and mats, and 20 per cent by traps, nets and spears for

¹ See p.20.⁴

(462) ² String bags have been excluded on the grounds that, although probably the most important piece of equipment, the women usually make them in the course of doing household tasks.

A, [See Category 435, p.20--Analyst]

433 hunting. The little time devoted to the preparation of tools for
512 the main subsistence enterprises reflects the degree of technological
substitution which has occurred since contact.

[342] Construction and repair of houses normally continues throughout
the year, here occupying 1.6 hours per man-week. In Sivepe such
activity declined during the course of the survey as plans were
formulated to transfer the village to the new site. Of 13 houses
whose occupants were not newcomers to the village, 4 were completely
rebuilt during the year and, in addition, 2 completely new houses
were built and a number of extensions and repairs made to others.
This 'crude birth rate' suggests the life of a house to be about
3.25 years. Since each house takes about 110 man-hours to build
(including the gathering of materials), about 0.6 hours per man-
week must be devoted to reconstruction in a normal year. In Sivepe
about 0.9 hours were devoted as a result of additional houses being
built; the balance (0.7 hours) accounting for repairs and minor
extensions.

[252] Household tasks occupy 5.3 hours per man-week, cooking predominat-
[462] ing with 5.0 hours. Of necessity, they vary little through the
year.¹ Much of the time taken up by cooking involves simply tend-
[372] ing the fire on which the food is being prepared and it is then
that the women often work on their string bags. Most firewood is
obtained as a by-product of clearing, suitable lengths of timber
being stacked in the garden to dry out and then carried to the
village as required.

All the above subsistence activities (food production, construc-
tion, handicraft work and household tasks) can be described as
'productive' in that 'the purposeful alteration and combination of
physical material' (Udy 1959:2) can be discerned in them. Together
they account for 26.6 out of the total of 30 hours per man-week
devoted to the subsistence sector of the economy.

512 Only 3.4 hours per man-week are spent in fulfilling social
182 obligations. Although categorised here as non-productive activity,
it should be stressed that ritual and informal social interaction
are part of the fabric of the total economic system and the kinship
networks which form the framework for these interactions serve as
the major mechanism for distributing goods produced within the
subsistence economy.

171 Belshaw, in discussing Melanesian exchange, states (1965:35):
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A primary point to note is that a very high proportion of
social contacts between adults is accompanied by gift-giving.

¹ The figure for cooking in period I is an estimate, derived from
averaging the figures for the following periods, since relevant
records were not initially kept.

Patterns of activity and seasonal influences

An average of 43.5 hours per man-week are spent on all activities.¹ However, the general level of activity and distribution of time varies widely from week to week and also, in some cases, seasonally (see Table 7:3 and Figures 7:2 and 7:3).

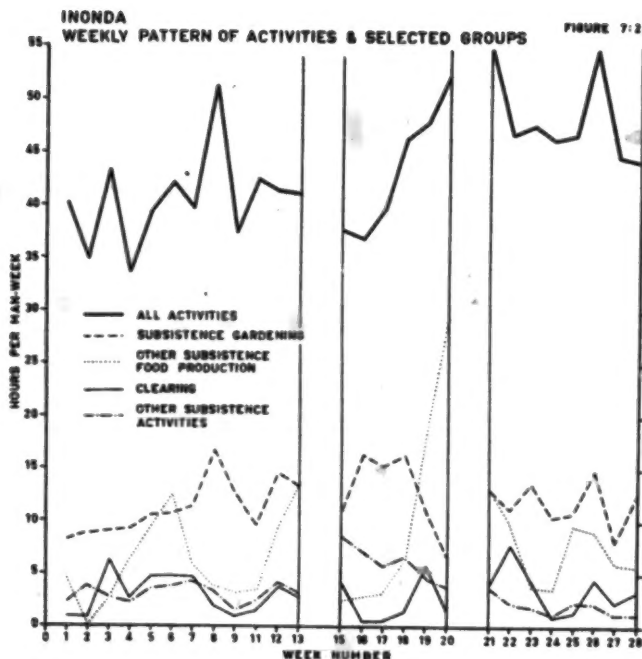
(a) The subsistence sector

(1) Food production. Subsistence gardening is the most important category of activity, accounting for an average of almost 12 hours per man-week. Over half of this time is devoted to taro cultivation, except during the dry season when planting and, in particular, harvesting of taro are reduced, although maintenance increases. Over the year as a whole, the time spent on taro is almost equally divided between planting, weeding and harvesting. For the other crops, however, little time is spent on weeding and most attention is given to harvesting. This is true of sweet potato and yam, which are usually grown in specialised gardens, as well as of minor crops such as corn, cassava and banana which are usually interplanted with taro. Yams are planted late in the year and harvested in the dry season. Sweet potato is planted both in the dry and early in the wet season, the latter being the main harvesting period, before taro is in full production. Over one-fifth of the 2.1 hours per week spent on minor crops involves coconuts, another fifth bananas and 18 per cent sugar-cane. Eleven per cent is devoted to pitpit but this crop accounts for one-quarter of the total during the wet season. Cultivation of plants that provide edible leaves (*ina*) accounts for 9 per cent of the time spent on minor crops over the survey, but 29 per cent in the dry season. Corn and pumpkin account for about 5 per cent each.

Clearing of gardens takes place throughout the year, most in dry spells at the onset of the wet season when newly planted crops will benefit from the rain. In February and March 1964, during the wet season, there was an unusually high rate of clearing after a flood in January destroyed several gardens containing maturing crops. During period II (the dry season), the rate of clearing was comparatively slow, partly because the season was abnormally wet and partly because of the large amount of time invested in fencing, which is necessary particularly at this time since feral pigs from more remote bush areas tend to invade the gardens for food. Clearly, the protection of growing crops has a higher priority than the establishment of new gardens.

During the dry season, food-producing activities other than gardening increase in importance, and sago-making is concentrated

¹ See, however, the adjustment for additional data, pp.136, 138.



towards the end of this season. Due to the intensive demands on labour for sago-making, men often spend all the daylight hours on this task, so that the average working day is longer than at other times, reaching 7.5 hours. The time spent on sago is at the expense of not only leisure but also of clearing, subsistence gardening, other subsistence activities and involvement with external agencies (particularly council work). Although sago-making is normally restricted to the dry season, in 1964 one household had to resort to sago near the end of the wet season, because the people concerned had spent several months late in 1963 at Saiho hospital and, on returning to Inonda, had no time to clear sufficient gardens to provide food throughout the wet season.

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morning or, less frequently, a whole afternoon is devoted to a particular task of cultivation, whether planting, maintaining, harvesting or processing and the mean duration of each of these activities is longer than for subsistence garden tasks.

As described,¹ the longest working sessions are spent on sago-making: 68 per cent of these sessions last between 5 and 11 hours. Thus, when a sago-palm is being harvested, men have little time for other tasks. Paid work also tends to preclude other activities by occupying the bulk of the daylight hours and the same is largely true of the fulfilment of most social obligations. Although many social occasions, particularly feasts and parties, take place during or continue into the night, the daylight hours beforehand are usually taken up with preparations, including the construction of shelters and the harvesting of food. Hunting and fishing both occupy on average more than four hours at a time. Fishing usually takes place in daylight hours, whereas people hunt mostly at dawn or dusk² and hunting does not therefore prevent the performance of daytime activities.

Most of the activities shown in Table 7:11 have a mean mid-point falling between about 11 a.m. and 2 p.m. Activities occurring early in the morning are church services, 'mission' work, visits to the aid post (personal sickness) and visits to Popondetta market.

The journey to work

Table 7:12 shows the proportion of total time spent on different classes of activity in travelling: part A shows the details for people while resident on the old village site and part B for the new site. Owing to the method of coding for computation, it was not possible to make allowance for the performance of several tasks at one site; where, for instance, a woman visited a garden and spent some time in clearing, some in weeding and some in harvesting and also visited another site on her way home, each period was recorded separately, thus exaggerating total travel time. An attempt was made to reduce the exaggeration by recording separately the occurrence of such duplicated times and these have been subtracted from the total, but not from the grouped activities. Most of these duplications were in clearing and gardening activities. Applying therefore an arbitrary proportion of 70 per cent of the

¹ See p.133.

² This bi-modal distribution for hunting invalidates the mean mid-point of 1331 (1.31 p.m.) hours shown in Table 7:11. To some extent the same is true of cooking, since most cooking is in early morning for breakfast and in late afternoon for dinner.

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Fig. 7. The New Guinea gardener's work tools, an axe, and large bush knife. The strong heavy spear is carried just in case he should see a wild pig. The cigarette, rolled with newspaper, is almost indispensable to most New Guineans

trunk of the sago palm which grows in wet or swampy ground. The sago is extracted by first cutting down the palm, then pounding up the fibre and washing out the starch. This passes through a coconut fibre screen into a settling tank. Four people can make 100 pounds of sago a day.

e) Grass fires. The origin and extension of tropical grasslands has long been a matter of debate. Large areas of grassland occur in Yega territory where villagers regard them as practically useless. Grasslands are extended by fire but only in special circumstances. Grassland fires seldom penetrate or destroy an area of mature rain forest or even areas of well-developed secondary growth. The danger period is the first two years after a swidden is abandoned. At this time there is a large quantity of grass and undergrowth amongst the young trees. If a fire spreads from adjacent grasslands to this highly inflammable material the young trees are destroyed. Being immature, they have not yet seeded and further forest regrowth is prevented. This circumstance is most likely to occur on the south-west margins of grassland areas where strong north-easterly

(P10-A)

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- 372 sea breezes, during the dry season (May to August) drive fires across the grasslands against the forest wall.

HOUSING AND VILLAGE LIFE

- 342 The Yega make three types of buildings each with a separate function; the vernacular names for these buildings are *mando*, *dobo* and *gaga*. The *mando* is the building where a man and his family normally live. It is a well-built structure about sixteen to twenty feet by twelve to sixteen feet, set on hardwood piles, with the floor about four feet above the ground. The framework is of untrimmed bush poles about four to six inches in diameter, nailed together (the fifty or sixty cents for nails is the only cash expense in building the house). The floor is of split lengths of limboim

- (824) palm, laid with the convex trunk side uppermost so that there are no splinters. Walls are made of lengths of the two inch thick midrib of sago palm fronds lashed vertically. The lashing usually leaves a space of quarter to half an inch between each pair of strips allowing any cooling breeze to blow through at all times. The roof is thatched with sago-leaf 'tiles'. The house is divided internally into two or three rooms, with a verandah in front.

- (417) The entrance ladder is frequently the worst constructed part of the house. It is often rickety and dangerous, but even small children and dogs seem to negotiate it without falling.

- 252 Cooking is usually done in front of the house or, in wet weather, underneath it. Some houses have a mud hearth three feet square and four inches thick, or the top of a forty-four gallon

- 354 drum covered with two inches of sand, in one of the rooms to serve cooking and heating purposes. Food is cooked in a pot balanced over the fire on three stones or, nowadays, on three empty meat tins. Furniture is simple.

- 352 There are no tables, chairs, or bedsteads. Sleeping mats are of woven pandanus leaf.

- 353 There is often a light blanket or two, baskets and bags hang from the ceiling and in every

- 415 house is a box or suitcase containing the wife's shell jewellery and the husband's ceremonial dancing finery, woven bracelets, feather head dresses, and shell and dog-teeth masks. Another box or suitcase contains the couple's

[P.10-B]

439 buy cheap cloth and durable iron or
178 aluminium pots at the trade stores. Although
415 every housewife now has two or three large
252 manufactured pots, she keeps them for cook-
[437] ing the food for feasts. Most of the daily meals
[431] are still prepared in clay pots but few of these
585 pots were obtained by the old barter methods;
431 most were obtained as gifts from friends or
relatives. At one wedding, for example, the
bride received fourteen clay cooking pots, in
addition to a large supply of mats, string bags,
enamel plates, and dishes: enough to last for
years to come.

ECONOMIC CHANGE AND THE PATTERN OF SETTLEMENT

178 A very close relationship exists between
361 economic change, particularly the planting of
cash crops, and changes in the pattern of
[173] settlement. Although most development has
occurred in the last twenty years, there is evi-
dence, supported by the oral traditions of Yega
elders, to show that some evolution of settle-
ment had occurred even before the first con-
tact with white men. By tradition the Yega
173 were sea people. This probably means that
361 they arrived as migrants and originally spent
most of their time aboard their canoes and
lived mainly upon seafood. They settled first on
three small islands, Baroda Deuga, about half
a mile north-east of Waususu Point (Fig. 9).
[133] These islands are today only a few feet above
high tide and are composed entirely of coarse
[P.12-A]